

Attachment A

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Attachment A – Discussion

ADDITIONAL MATERIALS

To avoid repetitive discussion this report builds upon the information contained in previous Board of Supervisors staff reports for the project, and focuses on the deliberations of the Garrapata Creek Bridge Rail Replacement Working Group. Previous staff reports containing detailed discussion of the project, and additional background information can be found at:

<https://www.co.monterey.ca.us/government/departments-a-h/housing-community-development/planning-services/library-current-major-projects/california-department-of-transportation-caltrans-garrapata-creek-bridge-rail-replacement-pln220090>

Caltrans also has a website which includes information on the project, drive through photo-simulations, and the 10 design variations with 10-inch openings developed after the Planning Commission’s denial of the project:

<https://dot.ca.gov/caltrans-near-me/district-5/district-5-current-projects/05-1h800>

GARRAPATA CREEK BRIDGE RAIL REPLACEMENT WORKING GROUP

On March 26, 2024, the Board of Supervisors moved to create a special working group to evaluate the project and alternatives that could potentially reduce visual and historic and impacts to the Garrapata Creek Bridge, considering the context of the other historic bridges along Highway 1 in Big Sur, known as the “Big Sur Arches.” The working group was comprised of three representatives from Caltrans, three representatives from the local community, and one representative from the County’s Housing and Community Development (“HCD”) department:

- Caltrans: Peter Hendrix, Traffic Division Chief.
- Caltrans: Kim Mori, Division of Engineering Services.
- Caltrans: Kristen Langager, Landscape Architect.
- Community: Stephen Lyon, Construction Project Manager.
- Community: Gary Knott, PE.
- Community: Janet Hardisty, Big Sur Resident.
- HCD: Craig Spencer, Director.

The local representatives were selected to try and include those with related knowledge, experience, or interest relevant to the project, including a civil engineer with structural design experience, a construction project manager, and a local Big Sur resident. The working group conducted meetings on April 26, 2024 and May 17, 2024, which were facilitated by Erica Parker, Director of Strategic Initiatives for the Veterans Transition Center of California. Both meetings were open to the public and took public comment, however only the second meeting had hybrid online and in person participation.

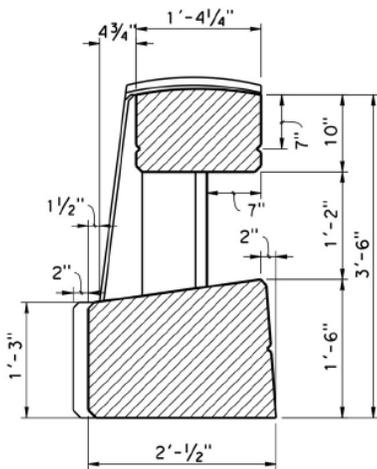
The first meeting had general discussion of project issues. At the second meeting Caltrans responded to questions from the first meeting and presented a number of design options with architectural variations that would comply with their standards. At the end of the May 17, 2024 meeting the working group made their recommendations. The design alternatives, project issues, and final working group recommendations are discussed below.

Design Alternatives

At the Garrapata Creek Bridge Rail Replacement Working Group's second meeting in May, Caltrans presented a number of design options for the group to discuss. All of the options were MASH compliant Test Level 4 "TL-4" railings with a number of potential architectural modifications. Renderings depicting the colors, architectural detailing, and section cuts of the different rails are included in **Attachment D**.

Type 86-H

The 86-H with 6 inch openings is Caltrans preferred alternative. This is the "project" that has been before the Planning Commission and Board of Supervisors. Caltrans also proposed a number of variations of this railing with a 10 inch opening and some form of metal element in the middle. An 8 inch opening with some form of metal element was also possible.



TYPE 86H SECTION



Figure 1: Type 86-H Railing with 6 inch chamfered opening and 10 inch wide options.

Type C412

The type C412 is a high speed historic look alike railing developed by the Texas Department of Transportation. This railing has a smaller top rail (6 inches), but fewer openings spaced farther apart as each baluster is a vertical structural member and the opening widths are a quarter inch narrower (5 and three quarters inches vs the 86-Hs 6 inch width).

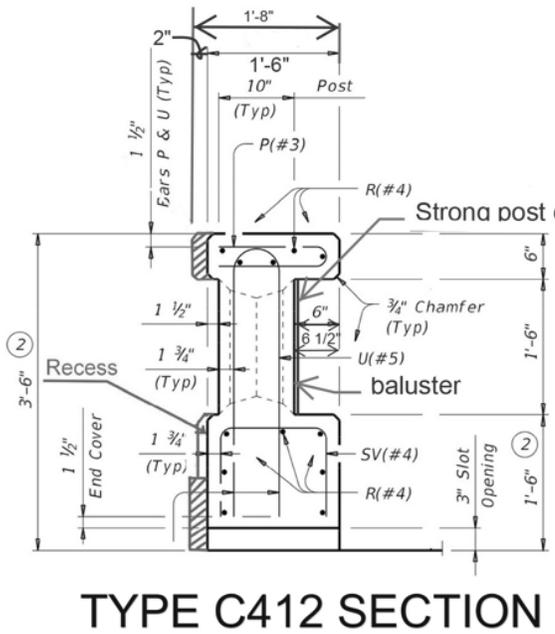
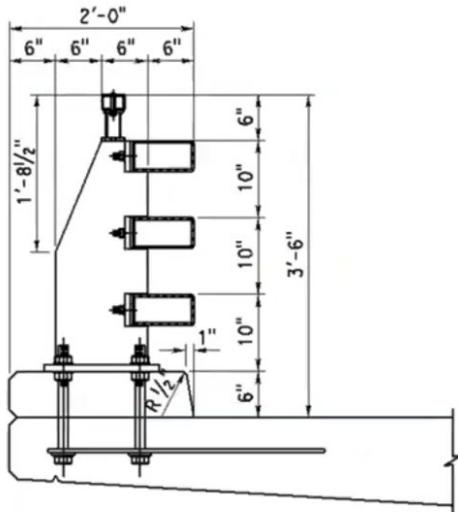


Figure 2: Texas Department of Transportation Railing with an example photo from outward face of the rail.

Type ST-75

The working group also looked at a fully metal horizontal rail to expand the considered options. The metal horizontal rail wouldn't have the same 6 inch width opening limitation, as the horizontal elements would be placed to meet this maximum dimensional standard, potentially increasing visual access. However the railing wouldn't match the materiality or historic architecture of the bridge, so discussion on this alternative was limited.



TYPE 75 SECTION



Figure 4: ST-75, which is available in either galvanized or patina.

Discussion Topics

Speed

The possibility of reducing the speed at the bridge, which would widen the range of considerable rails was discussed. Lower speeds (less than 45 miles per hour) allow what's called a Test Level 2 "TL-2" MASH compliant railing. This is a potential alternative discussed in the "Finding of Adverse Effect" attached to the historical report for the project. This rail has a taller opening than the proposed railing within the bulky curb and top rail, but would retain the same 6 inch opening width. According to Caltrans appeal, the baluster spacing on this rail type is also such that it would have less opening space overall, which is a visual access tradeoff. Peter Hendrix mentioned that Caltrans currently installs Test Level 4 safety devices on all bridges regardless of speed, so even if the speed were reduced it's likely this would need to be evaluated at the state level.

A traffic engineering and speed study was conducted in 2019 which established an 85th percentile speed of 58 miles per hour. The California Vehicle Code would not allow Caltrans to reduce the speed below 55 miles per hour based on this study. The working group discussed two different ideas to broaden the consideration of speed:

- Doing a "pilot program" reduced speed, such as installing advisory 45 mile per hour signage and seeing if this would significantly reduce the operating speed in this location; or

- Doing a wider corridor level speed study, to see if the speed could be reduced along this entire stretch of Highway 1.

These conversations didn't reach a conclusory recommendation, as it's unknown if a pilot program would be successful in reducing the speed, or if Caltrans could perform a corridor wide speed study citing staffing and budget constraints.

Curb Height

One of the main drivers of the increased bulk and reduced opening height of the new rails are the increased width of the curb and top rails. The Type 85 railing is a MASH compliant rail with a 12 inch curb, rather than the 86-Hs 18 inch curb. The question was asked if the curb height could be reduced to increase the height of the opening. Kim Mori from Caltrans mentioned that they had looked into this, but for the 86-H only the taller 18 inch curb could pass crash test requirements. The working group members looked at variations of the Type 85 which has this reduced curb height, but the introduction of a metal bar in either version of the 85 would add a modern element not complementary to the historic nature of the bridge.

Strong Post Location

The proposed 86-H also has additional strong posts located regular intervals, while the other MASH compliant open baluster rail in the EIR, the Texas C412, does not. Kim Mori mentioned this was because the baluster for the C412 is structural, while it is not for the 86-H. The Type 86 was developed starting from the Type 85 rail, which is a horizontal concrete rail with these strong posts at regular intervals. For this issue the tradeoff between the C412 and 86-H is that the 86-H has additional strong posts, but can have a larger number of openings and have the openings closer together.

Use of Materials

At the first working group meeting the potential of eliminating the balusters as they are non-structural members, or utilizing a metal rail to increase visual access was discussed. At the second working group meeting examples of the Type 85 rail, a concrete rail without the balusters and using a horizontal metal bar to meet the requirement that a 6 inch sphere not be allowed to pass through the rail above a certain height, as well as a fully metal rail the ST-75. For the metal element, both rails would have galvanized or patina options. The question was asked of whether the metal could be made to replicate the appearance of stone, which Caltrans representatives did not think was possible. The attempted replication could also have create a fake seeming "Disneyland" quality.

Working Group Recommendation

At the end of the May meeting the working group rendered a recommendation. The facilitator asked the group to pick a number of options for final consideration, from this the ST-75 and Type 85 with the horizontal metal bar were eliminated from consideration. From these available choices the working group voted by ranking the options in order of preference from one to three:

<u>Alternative</u>	<u>Preference (Number of Votes)</u>		
	Primary	Second	Third
Replace rails in kind/pursue legislative alternative	4	0	0
Type 86-H with 6 inch chamfered opening	3	2	1
Type 86-H with 10 inch opening and metal element	0	1	1
Type 86-H with 8 inch opening and metal element	0	0	0
Type 85-H	0	1	1
Type C412	0	3	2

Table 1: Summary of Working Group Recommendations

At first a numerical score was assigned to each of the preferences, with the first preference receiving three points, second receiving two points, and third receiving one point. If this is done the 86-H has the most (fourteen) points, and replacement in kind/legislative change and the C412 are tied for second, both with eight points. However, it became clear this wouldn't capture the nuance of the recommendation.

A simple majority, 4 out of 7, preferred a combined alternative of either replacing the rails in kind or some form of "legislative" solution to broaden the range of considerable alternatives. The three local representatives and HCD representative picked this option as their primary preference. The local Big Sur resident didn't express a preference beyond this option, so it was unclear how that would factor into any kind of ranked voting. The second preference was Caltrans proposed Type 86-H rail with 6 inch openings and chamfered edges, with all three Caltrans representatives selecting this as the preferred option, and two of the members selecting it as the second best. A few of the members selected other alternative rails presented as secondary or third options, such as Texas Department of Transportation's C412, a modified version of Caltrans Type 85 rail, or the 86-H with a 10 inch opening. Of these the C412 was the most popular. None of the members selected the 86-H with an 8 inch opening and metal element.

SUPPLEMENTAL ANALYSIS

The discussions at the working group were informative in contextualizing the tradeoffs between different Test Level 4 railing options and architectural treatments that would be acceptable without affecting crash test requirements or other safety/design standards. Caltrans appears to have made significant design efforts within the assumptions that the rail must comply with their current safety standards and that the highway speed at this location is immutable. However, the discussions were unable to address the core issues with the alternatives analysis: working backward from a conclusion (that the rails must meet current design standards) and using reliance on safety standards as a substitution for project specific health and safety analysis.

Legislative Option

The working group's first recommendation, either replace the railings in kind triggering the presumptive need to pursue some kind of legislation that would widen the range of considerable alternatives beyond those that meet current design standards, was a combined alternative recognizing that these options do not comply with the MASH or AASHTO standards that are relied upon by Caltrans. While nothing in staff's research has indicated that adherence to the standards Caltrans is citing (the Manual for Assessing Safety Hardware and the American Association of State Highway and Transportation Officials BDS-8) is required by law, this may be only avenue that would get Caltrans to change their position.

Staff don't know what a legislative solution would look like, and that's something that would likely go beyond review of this individual permit application. There are a few different options that may achieve the desired effect. The legislative change could be a simple allowance to replace the railings on these bridges in kind due to their historical, aesthetic, and cultural importance; or it could be broader and allow some kind of design exceptions for character defining features of historic bridges. An example of this in building construction is the California Historical Building Code, which was mentioned by Gary Knott, PE in the working group meetings. Other states have Historic Bridge Preservation Plans that apply on a statewide basis or for individual bridges, or have incorporated consideration of historic bridges into their design manuals. The broader approach could prevent this deadlock regarding absolute adherence to standards from delaying future projects.

Even if the laws or policies change, to be successful would require a paradigm shift to considering substantive safety (will it actually create an unacceptably significant risk) over nominal safety (does it meet the standard). This is a difficult ask due to the inherent liability involved in safety devices along a State Highway. However, if an exception is going to be considered anywhere, it would likely be Big Sur's historic bridges. These are some of the most treasured and iconic structures on the California coast.

Temporary Solution

Caltrans has communicated that the project development deadline, where all approvals and plans need to be completed, is December 2, 2024 due to current funding limitations. If the board acts to deny the permit the County's decision can be appealed to the California Coastal Commission. If the project isn't approved in its current or modified form in some way at the California Coastal Commission, it's likely that the current project proposal would be cancelled and some sort of temporary safety measures will be considered by Caltrans. There has already been temporary metal railings affixed to the inside of the Bridge rails for some time and there has been a temporary one-way traffic control signal in place while Caltrans carried out an electrochloride extraction project. However, it would mean that a temporary measure to ensure safety on the bridge would likely be implemented longer.

Coastal Commission

Whether the Board of Supervisors approves or denies the permit, that decision would be appealable to the California Coastal Commission. The grounds for the appeal are limited to conformity with Local Coastal Program Policies or the public access policies of the Coastal Act. The California Coastal Commission's appeal process is a two step process. In the first step the commission would

determine whether the appeal raises a substantial issue that the commission finds significant enough to warrant assuming jurisdiction of the Coastal Development Permit. If the Coastal Commission does find issue with the County's decision, they would assume jurisdiction of the Coastal Development Permit and take it to a separate hearing before the Coastal Commission.

If they do not, the County's decision would stand (approval or denial). If denied, at that point Caltrans would have the option to re-apply to the County. The County's Local Coastal Program does not allow re-applying with substantially the same within a one year period. However, as the project is fairly focused in scope, replacing a bridge rail, the staff's draft denial resolution has language which makes clear that a project consistent with the Local Coastal Program and/or addressing all the denial findings in the resolution would be considered substantially different.

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